U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
FINAL ENVIRONMENTAL IMPACT STATEMENT FOR
ANACAPA ISLAND RESTORATION PLAN
CHANNEL ISLANDS NATIONAL PARK
VENTURA COUNTY, CALIFORNIA

RECORD OF DECISION

INTRODUCTION: Pursuant to §102 (2)(c) of the National Environmental Policy Act of 1969 (P.L. 91-190, as amended), and the regulations promulgated by the Council on Environmental Quality (at 40 CFR 1505.2), the Department of the Interior, National Park Service (NPS), has prepared the following *Record of Decision* regarding the *Final Environmental Impact Statement* (FEIS) for the *Anacapa Island Restoration Plan*, Channel Islands National Park.

This Record of Decision is a concise statement of the conservation planning and environmental impact analysis process completed, the six alternatives considered, decisions made and the basis for the decisions, the nature of the public involvement and consultations in the overall conservation planning and impact analysis process, the mitigating measures developed to avoid or minimize potential impacts to the environment, and commitments to compliance with other environmental laws

DECISION: The NPS will adopt and implement actions described in the *Proposed Action, Alternative 2* as refined in the FEIS issued in October, 2000. Key elements of this alternative are described below as the Selected Action.

SELECTED ACTION: Upon careful consideration of all concerns and issues raised during the conservation planning and environmental impact analysis process, NPS guidelines and other appropriate laws and regulations, and with due consideration for the need for this project, the NPS has selected the Proposed Action, *Alternative 2* for implementation. Specifically, this decision entails use of a rodenticide, including specification of active ingredient and its concentration; rodenticide bait application method and rate; and measures to minimize harm that are described in detail in the FEIS. Below is a summary of key features that will be implemented as part of this restoration program:

Rodenticide - The NPS has requested approval from Environmental Protection Agency (EPA) to use a 25 ppm bait containing the rodenticide brodifacoum. The approved label will be for exclusive use within Channel Islands National Park for use only by the NPS or its cooperators, as further conditioned by the NPS Integrated Pest Management program. Its intended use is for control of non-native rodents for conservation purposes. The rodenticide label restrictions are for control of non-native rodents on offshore islands with the purpose of protecting native and endangered plants and animals.

Rodenticide Application - The rodenticide may be applied by aircraft, ground driven devices, or by hand at a maximum rate of 15 kg/ha. Localized application is authorized around industrial, commercial and public buildings and similar structures. A shoreline buffer zone will be established, requiring hand applications, to avoid accidental introduction of the rodenticide into the marine environment.

RANGE OF ALTERNATIVES ANALYZED: Five alternatives to the selected action were considered and evaluated in the FEIS. Except for Alternative One (No Action), each alternative

required that varying combinations of specific actions be implemented. These actions include: conduct effectiveness and validation monitoring; implement rodent introduction prevention plan; ensure the viability of the native deer mouse population; develop a rat detection response plan; use special precautions around visitor use areas; time baiting operations to minimize non-target impacts; comply with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); undertake public awareness precautions; and restrict visitor use for a short-period during and following baiting operations.

Alternative One (No Action) - This alternative would continue the existing rat management strategy on Anacapa Island. From the late 1980's through the early 1990's, concentrated control activity occurred on Anacapa Island. This consisted of widely spaced, elevated bait stations using the rodenticide Warfarin. Since that time the Park has concentrated control efforts around the existing structures on East Island. No control measures have been taken outside of these areas due to budget, personnel, and compliance constraints.

Alternative Three - The primary objective of this alternative was to minimize primary exposure impacts to landbirds. This alternative combined use of bait stations and aerial broadcast of the rodenticide brodifacoum. A grid of bait stations would be deployed for use on top of Middle and East Islands while aerial broadcast would have occurred on West Island and the cliffsides of East and Middle Islands.

Alternative Four - This alternative addressed the issue of potential impacts to non-target species. This alternative involved aerial broadcast of bromadiolone, a second-generation anticoagulant similar to brodifacoum. This alternative is similar to the Alternative Two with the exception of using the rodenticide bromadiolone instead of the rodenticide brodifacoum.

Alternative Five - This alternative focused on minimizing primary exposure impacts to landbirds and spatially exclude Deer Mice from gaining access to bait in stations. This alternative is similar to Alternative Three with the exception of using the rodenticide bromadiolone instead of the rodenticide brodifacoum. This alternative combined use of bait stations and aerial broadcast of the rodenticide brodifacoum. A grid of bait stations would be deployed for use on top of Middle and East Islands while aerial broadcast would have occurred on West Island and the cliffsides of East and Middle Islands.

Alternative Six - This alternative focused on minimizing potential primary and secondary exposure impacts to non-target species. This alternative outlines the aerial broadcast of diphacinone, a first generation anticoagulant followed by a bait containing brodifacoum, a second-generation anticoagulant. The rodent baits would be aerially broadcast from a hopper suspended under a helicopter, and by hand.

OTHER ALTERNATIVES CONSIDERED: Several methods and techniques were rejected from full consideration. Exclusive use of bait stations (elevated and ground) was rejected because of the steep cliffsides on Anacapa Island and the problems associated with placing bait stations in all of the rat territories on the island, including the steep cliffsides. Studies cited in the analysis documented that not all rats could access the elevated bait stations. Several alternate rodenticides were also considered, but were rejected because: (1) they had not been used previously in successful island eradication; (2) they had potential to cause bait shyness; (3) they could not cope with the potential "Warfarin resistant" rats; and (4) there is no antidote for some of the rodenticides. Exclusive use of trapping, and introduction of predators were both rejected because they failed to meet the purpose and need.

ENVIRONMENTALLY PREFERRED - *Alternative 2*, the selected action, was deemed to be the "environmentally preferred" alternative, because of proven efficacy for eradication. From an eradication standpoint it is necessary that every individual exposed to the rodenticide succumbs. Should a rat not succumb after exposure to the bait it may develop bait avoidance, potentially leading to eradication failure. Other baits analyzed in the FEIS showed that multiple feedings would be required, or that under trial conditions the bait did not kill 100% of the test population. Brodifacoum offers the highest probability of achieving the 100% kill of rats, thus meeting the purpose and need of the project. Failure to kill 100% of the population has significant consequences to the sensitive resources being adversely affected by the rats. Eradication failure results in all of the impacts associated with the use of the rodenticide, but would also include the continuation of rat impacts that have been documented to sensitive resources on Anacapa Island.

In addition to efficacy, another factor that makes *Alternative 2* environmentally preferred over other alternatives is the length of time the bait is available in the environment. For successful eradication with bait stations, stations must be armed for 1-2 years. The presence of bait in stations over this extended period of time presents secondary poisoning risk the entire time bait stations are armed. Length of time bait is available for secondary exposure is much greater for bait stations than a single application aerial broadcast. Servicing bait stations over an extended period of time causes soil and vegetation impacts that will not occur under an aerial broadcast.

Finally, applications will be completed by hand or aerial broadcast across 100% of the area of the islands with the rodenticide brodifacoum. Island-wide baiting would be done in two phases. The first phase treats East Islet with approximately 20 ha of Middle Islet to lower the probability of invasion by rats from Middle Islet to East Islet. The second phase would treat Middle and West Islets in the year following East Islet application. This targeted, phased approach was also factored into the "environmentally preferred" determination.

MEASURES TO MINIMIZE HARM: A comprehensive program to eliminate or reduce environmental effects will be implemented, including the following measures:

Non-native Rodent Introduction Prevention Plan - To minimize the risk of rodent introductions to the Channel Islands, the Park will develop a prevention plan. The prevention plan will include the following preventative actions: Rodent-proof storage areas; Rodent-proof containers that haul equipment and supplies to the Islands; Control rodents at all departure points, including planes, boats, and helicopters that transport people and materials to the Islands; Inform and educate all people who visit the islands. This includes the general public, concessionaires, contractors, employees, permittees, and researchers.

Protection of Native Deer Mouse Population - A protection plan will be developed and implemented prior to the eradication efforts. The protection plan will be developed in consultation with *Peromyscus* and genetic experts from the Brookfield Zoo, Illinois and the University of Illinois. The objective is to maintain genetic diversity and ensure a viable post-eradication population of mice on each islet. The Anacapa Deer Mouse is a distinct subspecies that is genetically identical across all three islets. As such, the Deer Mouse population can be managed as one population (or "evolutionarily significant unit") rather than a distinct population on each islet. To maintain genetic diversity and ensure a viable population, 1000 mice across all three islets will be protected from any exposure to the rodenticide.

The Deer Mouse protection plan will consist of one or a combination of: (1) laboratory captive holding/breeding, on/off island; (2) moving mice between islands; (3) fenced enclosures, which would not be treated.

Rat Detection Response Plan - Reacting to a "rat-spill" from a shipwreck or some other introduction requires a rapid response, as does any appearance of rats on Anacapa Island following eradication, or on Prince, Sutil and Santa Barbara Islands. In the event of a shipwreck the Shipwreck Response Plan will be implemented. Should the decision pathway in the Shipwreck Response Plan suspect rodent introduction, management will immediately implement the Rat Detection Response Plan. This strategy is to be ongoing to ensure rat-free islands are maintained.

Human Health - A buffer of approximately 10 meters around the campground, buildings and landing area on East Island will be established. This buffer would not be aerially treated, though a perimeter of bait stations would be established approximately every 10-15 m. Each station would be uniquely labeled to identify its location. An appropriate warning label on each station and a copy of the product label would also be displayed at each of these bait stations.

Timing and Permits - To minimize both disturbance and potential ecotoxicological impacts, bait application is be restricted to November through December of each year. Prior to implementing island-wide eradication, NPS will acquire EPA registration for its CI-25 rodenticide.

Public Awareness and Visitation Restriction - Posters outlining the project and warning visitors of the activities on the island would be posted on the mainland at the visitor center, on island at the landing cove and at the visitor center at East Anacapa Island. The operations of the eradication program will require that visitation be restricted for a short period. East Anacapa Island will be closed to all visitors for approximately 2-3 days. The restriction is necessary to allow the operations crews to implement the baiting operation including helicopter activity, evaluation, and monitoring of the environment. After the operations are complete, the island will be open to day use visitors. East Anacapa will be closed to campers for approximately five days because the campground will be used for housing the post- treatment monitoring crews.

MITIGATION ACTIVITIES: The following key use safeguards and mitigation measures will be implemented as part of the overall comprehensive rat control and restoration program:

1) rodenticide use and timing safeguards: Applications will be made under the direct supervision of NPS certified applicators, and as appropriate in consultation with other agency personnel (e.g. Channel Islands National Marine Sanctuary); Applications will be limited to November-December, a time of year when there are no birds breeding on the island and migratory species have moved off the island for the winter. Visitation is down dramatically during this time of year, thus also reducing risk of human exposure.

2) *human safety precautions*: Anacapa Island will be closed to the public during all rodenticide application activities for the duration of the program; Visitors and Park employees will be notified through signage both on island and on the mainland; Application is planned as a "one-time" use, thus limiting the window of exposure to a short period of time (as compared to bait stations which are required to be armed for up to two years for successful eradications, thus temporarily increasing the risk of exposure).

3) *non-target species protection measures*: Under field conditions, 87-100 % of radio-tagged rats have been shown to die below ground after anticoagulant poisoning, thus limiting potential

secondary poisoning of scavengers. For five days post-treatment, regular walk-through sweeps of the island will be conducted to find rats that die above ground. Removal of carcasses will be accomplished to reduce or eliminate their availability to scavenging birds; the Park will attempt to safeguard birds of prey through live trap-removal, supplemental feeding, and/or or temporarily discouraging use of any treated habitat; The bait will be formulated with a green or blue dye, colors which birds are less attracted to; Size of the pellets selected to be deployed is intended to reduce likelihood that small Passerines may pick up bait.

4) other measures: Application will take place just prior to the onset of the rainy season to ensure any unconsumed bait is degraded over the rainy season; A no aerial drop zone will be established beginning at the shoreline and extending interior generally a minimum of 5 feet (or as topography allows) to ensure bait does not enter into the ocean. In areas with an accessible shore, hand broadcast will be accomplished to ensure bait is not mis-applied into the ocean; A deflector will be specifically designed for the bait hopper that allows for precise application of bait in sensitive areas; The Park will meet periodically with the Channel Islands National Marine Sanctuary to provide updates on the marine monitoring being carried out as part of the island-wide eradication and restoration program.

MONITORING FOR EFFECTIVENESS AND VALIDATION: Thorough monitoring will be completed prior to final treatment of Middle and West Islets. Effectiveness monitoring will be conducted to determine if the brodifacoum baiting is effective in meeting the goal of 100% eradication of non-native Black Rats. Validation monitoring will be done to measure the environmental effects of brodifacoum baiting. Validation monitoring results will be compared to the environmental effects that were predicted in the FEIS.

Eradication will begin with baiting in representative habitat within the project area. Representative habitat would be limited to East Islet as a whole, or a smaller area on Middle Islet. Analysis of monitoring data will be done prior to proceeding with islet-wide treatment of Middle and West Islets. Evaluation of monitoring results will determine whether to modify the eradication activities, or continue the proposed eradication activities

Monitoring results that suggest a need to modify the ongoing project may require a supplemental EIS (SEIS). Supplemental environmental impact analysis and conservation planning is necessary when substantial new information is discovered, and/or when change of activities result in substantial change in environmental effects that were not previously analyzed in the original EIS. Any such SEIS process would need to be completed (including agency consultation and public involvement) prior to resumption or redirection of eradication activities.

Monitoring results that are consistent with the analysis provided in the FEIS would allow for the continuance of the proposed eradication activities without additional environmental compliance.

PUBLIC INVOLVEMENT AND AGENCY CONSULTATION: Public involvement began in November 1999 when the Park initiated "scoping" on the purpose and need for the project and possible actions then identified. The Park contacted interested publics, regulatory agencies with oversight concerns, conservation groups, and worldwide experts in the field of vertebrate pest ecology. During November, the Park sent a scoping letter to all interested publics, including all government regulatory agencies. The Park prepared a press release to all local media outlets. This resulted in stories regarding the project in three local newspapers (Ventura County Star, Santa Barbara Newspress, and the Los Angeles Times). The Park also began posting information on its website regarding the project. A formal Notice of Intent was published in the Federal Register on November 26, 1999.

On December 8, 1999 the Park conducted a public meeting. The Park paid for ads and placed public notices in three local newspapers (Santa Barbara Newspress, LA Times, and Ventura County Star). A local radio station covered the meeting and aired its story continuously during its news broadcast the following day.

The overall scoping efforts yielded five written comments. The comments asked the Park to consider a specific alternative to eradicate rats, or asked the Park to evaluate impacts to specific resources. The Park used the public scoping comments to prepare the DEIS, which was completed in July 2000. A formal Notice of Availability for the Draft EIS appeared in the Federal Register on July 7, 2000; a press release was also issued to 50 local media outlets announcing availability of the DEIS. The Park distributed printed and cd-rom format DEIS's to over 100 government agencies, organizations, and individuals.

The formal public comment period ended on September 5, 2000. The Park received eight letters commenting on the project. The Park carefully considered these comments during preparation of the FEIS, which was distributed in October, 2000. The availability of the FEIS was formally announced on October 13, 2000 in the Federal Register, and via public notces placed in two local newpapers. Approximately 58 copies of the FEIS were distributed directly to the mailing list complied for this project; with an additional 20 copies distributed in response to new requests. The document was also available at local libraries and through the Park's website. No responses were received by the Park during the 30-day "no-action" period which concluded on November 13, 2000.

In addition to these activities, early consulting with other agencies also aided the conservation planning and environmental impact analysis process. Implementation of the Anacapa Island Restoration Project will comply with all applicable environmental laws. No actions toward accomplishing any project element will begin until approval is given by the appropriate regulatory agency.

The Park received concurrence from the US Army Corps of Engineers that the selected action does not involve any USACE regulated activities (this island does not have any live water streams or wetlands).

A biological assessment was completed by the Park and reviewed by the US Fish and Wildlife Service. The assessment concluded that implementation would "not be likely to adversely affect" the endangered Brown Pelican, and would have "no effect" on the endangered Island Malacothrix. The USFWS concurred with these findings in a letter dated October 26, 2000.

In consultation with NPS cultural resource staff, the selected action was determined to have no effect on cultural resources on Anacapa Island.

Because the federal government wholly owns Anacapa Island, and its uses are subject solely to the discretion of the federal government, its excluded from the coastal zone (CZMA §304(1)). However, since it is possible that implementing these actions may affect the coastal zone, a Negative Determination for federal consistency review was provided to the California Coastal Commission (CCC) on September 7, 2000. The CCC is required to act within 45 days from the date such determination is received; since the CCC has neither acted upon the determination nor requested and extension, it is presumed the Negative Determination is valid for this initiative.

The Park consulted throughout with the National Oceanic and Atmospheric Administration in developing the selected implementation plans. On October 17, 2000 the Park and the Channel Islands National Marine Sanctuary (NMS) finalized specific elements of the marine environment to be monitored as part of the island-wide eradication project. The NMS requested that the marine monitoring protocols be submitted for inclusion in the Letter of Authorization that is required to conduct the eradication efforts.

The Park provided an "essential fish habitat" impacts analysis to the National Marine Fisheries Service (NMFS) for consultation. In a letter dated September 22, 2000, NMFS concurred that the project will neither adversely affect the designated EFH of Pacific groundfish nor coastal pelagic species. Although disturbance to marine mammals is expected to be minimal for this project, as suggested by NMFS an incidental harassment authorization permit will be obtained prior to implementing island-wide eradication activities.

The EPA is currently reviewing an application submitted to them by the NPS Washington Office's Integrated Pest Management Division in behalf of the Park. The application requests that the EPA approve a Quarantine Exemption under §18 of FIFRA for the Park to use a non-registered bait. Approval of this application is necessary before Island-wide eradication can occur. As allowed under FIFRA, the Park may conduct a broadcast trial (less than 10 acres) under an experimental use exemption. In compliance with the NPS's IPM program requirements, all conditions which made be stipulated by the EPA will be observed in full.

ENVIRONMENTAL ISSUES: Three primary environmental issues were surfaced during the EIS process; the manner in which *Alternative 2* responds to these issues is summarized as follows:

Target Species Efficacy - Efficacy for this analysis is defined as how well the alternative would meet the 100% eradication objective. From an efficacy standpoint, *Alternative 2* offers the highest probability of success in eradicating rats from the island.

Non-Target Species Impacts - Impacts to non-target species were analyzed for each alternative. Impact analysis included physical disturbance impacts, as well as the toxicological effects of the proposed rodenticide on non-target species. *Alternative 2*, similar to other alternatives, may cause short-term disturbance to landbird, seabird, and marine mammal species. *Alternative 2* contains provisions to minimize disturbance by limiting the baiting period to November through December of each year, a time when the endangered Brown Pelicans are not nesting on the island. The late fall period offers the optimum time to apply the bait for the following reasons: (1) endangered Brown Pelicans are not breeding on the island; (2) the rats are in decline due to food stress and therefore would eat the bait more readily; and 3) the onset of the rainy season would expedite the degradation of any residual bait not consumed by the target species. Soil and vegetation disturbance is also minimized under *Alternative 2* because frequent servicing of bait stations is unnecessary, as it is in Alternative Three and Five.

Toxicological impacts were analyzed for a wide range of species that may be present in the project area. The effects analysis included both primary exposure (direct consumption of the bait containing the rodenticide), and secondary exposure (species who feed on animals that have been directly exposed) impacts. *Alternative 2* incorporates actions that minimize toxicological impacts to non-target species. Specifically, the endemic deer mouse on Anacapa Island are at risk of exposure to the rodenticide, but will be protected by a combination of: laboratory captive holding/ breeding on/off island; move mice between islets; or fenced enclosures to ensure a viable population remains on the island. In collaboration with the

Predatory Bird Research Group, University of California-Santa Cruz, the Park will attempt to mitigate birds of prey through: live trap and removal, and/or supplemental feeding and/or discourage use of any treated habitat.

Public Safety and Visitation - Anacapa Island is the most visited of all islands in the Channel Islands National Park. Visitors are only allowed access to East Island and Frenchy's Cove on West Island. East Island receives both day visitors and overnight campers. With the high visitation to the islands by the public there are two concerns: (1) potential exposure of the public to the rodenticide; and (2) impacts to visitors from closing the island during planned operations. As detailed above, *Alternative 2* makes specific provisions for both of these concerns.

Unavoidable Adverse Impacts – Potential impacts for *Alternative 2* are detailed in the FEIS. Mitigation measures and measures to minimize harm were incorporated for those resources that would be impacted; as a direct result, no unavoidable adverse impacts are expected.

Irretrievable and Irreversible Commitment of Resources – Alternative 2 will not result in any irreversible loss of resources. Irretrievable loss of resources to species such as landbirds and mice have been recognized and mitigation measures developed to minimize any such loss.

RATIONALE FOR DECISION: In evaluating the alternatives and selecting *Alternative 2* the NPS considered several factors: (1) consistency with agency guidelines and policies, including the Channel Islands General Management Plan; (2) extent to which it meets the "Purpose and Need" of the project; and (3) extent to which it responds to and/or resolves the environmental issues raised in the EIS process.

General Management Plan - *Alternative 2* is consistent with the management direction in the Park's General Management Plan (GMP). The GMP, completed in 1985, defines management direction for the natural resources within the Park. In this GMP specific objectives are stated for Anacapa, San Miguel, and Santa Barbara Islands. The management objectives from the GMP that support the Anacapa Island Restoration Project include: Restore altered ecosystems as nearly as possible to conditions they would be in today had natural ecological processes not been disturbed; Develop an awareness of threats that impact or have the potential to impact Park resources; Actively respond, as a land management agency, to these potential threats. In addition to stating general management objectives, the plan identifies specific objectives for island resources. Management guidelines to meet objectives were also described in the Plan. Black Rats are specifically mentioned in the GMP. The objective stated for Black Rat management is "eradication". The action to meet this objective calls for the Park to initiate an eradication program on East Anacapa Island. Under the criteria established by the GMP for rat eradication, such a program must: Be effective; Be selective for rats; Have the least possible effect on native mouse populations and other forms of plant and animal life; Present the lowest risk to visitors and staff; Be economical and simple to maintain.

Alternative 2 is also consistent with the Park's Resources Management Plan (RMP). The RMP identifies this project as a necessary action to perpetuate natural processes and resources within the Park. The RMP flows from the GMP and Statement for Management (1991). The RMP is the Park's strategic plan for the long-range management of resources and a tactical plan identifying short-term projects.

Purpose and Need - The purpose of the proposed action is to eradicate rats from Anacapa Island and keep it and all Park islands rat-free. Eradicating rats from Anacapa Island would improve seabird-nesting habitat and could aid in the recovery of some species such as the

Xantus' Murrelet and Ashy Storm-Petrel. As described in the FEIS, *Alternative 2* is rated as having the best efficacy for meeting the eradication objective of all the alternatives analyzed. The primary need for this project is the recovery of crevice nesting seabird populations on Anacapa Island. Seabird biologists, including crevice nesting seabird experts, concur with the Park that eradicating rats is a necessary conservation project.

Conclusion: Based upon the analyses and rationale summarized above - and in particular because the proposed actions will expeditiously eradicate rats from Anacapa Island, thus fostering restoration of seabird colonies – *Alternative 2* is approved for implementation by Channel Islands National Park.

Signed: (original signature on file) Date: 11/17/00

John J. Reynolds
Regional Director, Pacific West Region